

**Designation Decision and Record of Decision in Response to Petition by  
Amigos Bravos for a Determination that Stormwater Discharges in Los  
Alamos County Contribute to Water Quality Standards Violations and  
Require Clean Water Act Permits**

I. SUMMARY OF PETITION AND REGION 6 DETERMINATION

On June 30, 2014, Amigos Bravos, a river conservation organization in New Mexico, submitted to the Regional Administrator of EPA Region 6 (EPA) "A Petition by Amigos Bravos for a Determination that Stormwater Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit" (the Petition). The Petition calls for a "determination, pursuant to 40 CFR § 122.26(a)(9)(i)(D), that non-de minimis, currently non-NPDES permitted stormwater discharges in Los Alamos County are contributing to violations<sup>1</sup> of water quality standards in certain impaired waters throughout the area, and therefore require National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402(p) of the Clean Water Act and/or designation as a municipal separate storm sewer system."

The Petition alleges that urban stormwater from Los Alamos County sites, particularly urban stormwater from developed areas at Los Alamos National Laboratory (LANL), the Los Alamos Townsite, and the community of White Rock Canyon (White Rock), is contributing to violations of New Mexico state water quality standards (NM WQS), including state WQS for polychlorinated biphenyls (PCBs), copper, zinc, and nickel, and that as a result, these sites should be subject to NPDES permitting requirements. CWA § 402(p)(2)(E) and EPA's stormwater regulations at 40 CFR § 122.26(a)(9)(i)(D) provide that the Director may designate stormwater discharges as requiring NPDES permit coverage if he or she determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a WQS or is a significant contributor of pollutants to waters of the U.S. Pursuant to 40 C.F.R. § 122.2, "[w]hen there is no 'approved State program,' and there is an EPA administered program, 'Director' means the Regional Administrator." Because the State of New Mexico is not authorized to implement a state NPDES program, EPA Region 6 administers the NPDES program in the State. In response to the Petition, Los Alamos County and LANL submitted to EPA additional information and data related to stormwater discharges in Los Alamos County on November 4, 2014 and November 24, 2014, respectively.

After careful review of the Petition and the additional information provided by LANL and Los Alamos County, as well as review of the State of New Mexico's assessment of water quality in the area, on March 17, 2015, EPA Region 6 published notice in the Federal Register (80 FR 13852) of a preliminary determination that discharges of stormwater from small municipal separate storm sewer systems (MS4s) on LANL property and urban portions of Los Alamos County contribute to violations of one or more NM WQS. The notice opened a 30-day public comment period ending April 16, 2015, on the preliminary designation decision, which EPA later extended an additional 60 days to June 15, 2015. Copies of all comments received are included in Appendix 3, and EPA's responses to those comments are included as Appendix 4.

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<sup>1</sup> The Clean Water Act uses the term "violation" but here EPA acknowledges that under the Clean Water Act, water quality standards are not directly enforceable and means that term to refer to an exceedance of water quality standards.

Based on comments received on the preliminary designation decision from interested parties, EPA re-analyzed the data and re-examined its initial determination that the discharges of urban stormwater from the preliminarily designated areas (the discharges) contribute to violations of WQS. In addition, New Mexico Environment Department (NMED) submitted to EPA a letter dated October 18, 2019 stating that NMED supports the proposed MS4 designations for the discharges at issue.<sup>2</sup> The State's letter explains that it conducted a study and confirmed that elevated levels of metals and PCBs are contained in urban stormwater leaving the impervious areas of LANL and the County. In addition, NMED's October 18, 2019 letter raises concerns about the impacts of stormwater from the Los Alamos area on water quality in the Rio Grande, a river that leads to what later becomes a drinking water source for both the City of Santa Fe and the City of Albuquerque and is used for irrigation.

In EPA's reanalysis of the data after the public comment period, EPA considered two basic factors:

- 1) Evidence of Water Quality Impairment: EPA asked the question, "Were the receiving waters for stormwater discharges from the Los Alamos Urban Cluster, the White Rock Urban Cluster, and LANL listed as impaired on the State of New Mexico's latest CWA section 303(d) list of impaired waters (available online at <https://www.env.nm.gov/swqib/303d-305b/>)" Being listed on the state's 303(d) list would indicate that New Mexico already determined that waterbody to be water quality-impaired for one or more pollutants and thus there was no assimilative capacity remaining for those pollutants. As a result, discharges of stormwater containing those pollutants would contribute to the impairment if the discharge contained levels above NM's WQS.

Conclusion: As described below, at least some of the discharges from LANL and the Los Alamos Urban Cluster are to waters listed as impaired on the State of New Mexico's CWA section 303(d) list. While there are impairments listed for the Rio Grande River, which stormwater discharges from the White Rock Urban Cluster ultimately reach, the immediate receiving waters at White Rock are not listed as impaired.

- 2) Evidence that the Level of the Pollutants of Concern in the Stormwater Discharges from Los Alamos County Are Contributing to the CWA § 303(d) Impairments: EPA asked the question, "Did at least some of the stormwater discharges from the Los Alamos Urban Cluster, the White Rock Urban Cluster, and/or LANL have maximum or median sampling results exceeding one or more of the NM's WQS for a parameter that was listed as a cause of impairment on the state's CWA section 303(d) list?" Because waterbodies listed as impaired for a pollutant or pollutants have no remaining assimilative capacity for those pollutants, maximum or median sampling results exceeding the state's WQS for one or more of those pollutants would indicate that the discharges containing the pollutant or pollutants at levels above the WQS contribute to a violation of that WQS.

Conclusion: Available discharge data indicate that some of the stormwater discharges from the Los Alamos Urban Cluster and LANL show maximum and/or median values that exceed state WQS. No discharge data was available for stormwater discharges from the White Rock Urban Cluster. See Appendix 4.

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<sup>2</sup> Letter from NMED Secretary James C. Kenney to EPA Region 6 Regional Administrator Ken McQueen dated October 18, 2019, superseding NMED letter dated June 15, 2015, which had not supported designation.

## Final Designation Decision:

After re-analyzing the available data with an emphasis on the above two factors, EPA determined that the stormwater discharges from the Los Alamos Urban Cluster and LANL are contributing to violations of NM WQS. However, upon reassessment of the data, EPA has determined that there is insufficient data about the stormwater discharges from the White Rock Urban Cluster to establish that stormwater discharges from White Rock are contributing to WQS violations. A more detailed discussion of EPA's analysis and the basis for its conclusions is found below and in EPA's responses to comments in Appendix 4.

After careful analysis of the Petition, comments on the Preliminary Designation, and all available information, EPA hereby designates for NPDES permitting as regulated small MS4s the following: MS4s located in the portion of Los Alamos County, New Mexico within the Los Alamos Urban Cluster as defined by the latest Decennial Census, and MS4s located on Los Alamos National Laboratory property located within Los Alamos County and Santa Fe County, New Mexico.

EPA's designation covers MS4s owned or operated by the following entities on LANL property and in the Los Alamos Urban Cluster as stormwater discharges requiring NPDES permit coverage pursuant to 40 CFR § 122.26(a)(9)(i)(D):

1. LANL, including Triad National Security, LLC (Triad) and the U.S. Department of Energy's National Nuclear Security Administration (NNSA) located within Los Alamos County and Santa Fe County, New Mexico,
2. Los Alamos County, New Mexico, located within the Los Alamos Urban Cluster as defined by the latest decennial Census,
3. New Mexico Department of Transportation (NMDOT) located within the Los Alamos Urban Cluster as defined by the latest decennial Census, and
4. NMDOT located within and interconnected with regulated LANL (Triad and NNSA) storm sewer systems in Los Alamos and Santa Fe Counties, New Mexico.

Under an NPDES permit, dischargers will be required to reduce pollutants in stormwater discharges to the Maximum Extent Practicable, effectively prohibit non-stormwater discharges into municipal separate storm sewers, and address water quality impacts as appropriate, thereby addressing concerns that these discharges are contributing to violations of NM WQS. See CWA section 402(p)(3)(B)(2)-(3) and 40 CFR § 122.34. NPDES MS4 permit(s) issued pursuant to this designation will cover only stormwater discharges from the covered MS4s. Stormwater discharges from undeveloped areas within the footprint of the designation that are not discharges from a MS4 will not be subject to permitting requirements under this designation. For example, LANL has large undeveloped areas within its property that do not appear to be served by a MS4.

## II. BACKGROUND

As part of the Water Quality Act of 1987 (WQA), P.L. 100-4 (Feb. 4, 1987), Congress required EPA to establish permitting requirements for certain stormwater discharges, including discharges from large and medium MS4s. (WQA § 405, codified as CWA § 402(p), 33 U.S.C. § 1342(p)). Congress also gave EPA authority to designate additional stormwater discharges for permitting on a case-by-case basis (often referred to as EPA's residual determination authority). EPA Region 6, responding to a petition under 40 CFR § 122.26(f)(2) and (4), has determined to designate certain small MS4s in Los Alamos County pursuant to 40 CFR § 122.26(a)(9)(i)(D).

A. Current Status of Stormwater Discharges in Los Alamos County Regulated under the NPDES Stormwater Program

There are currently no regulated MS4s<sup>3</sup> in Los Alamos County. EPA's Phase I stormwater regulations (55 FR 47990, November 16, 1990) required NPDES permits for large and medium MS4s, as defined at 40 CFR § 122.26(b)(4) and (7). The regulations included a list of incorporated places (cities) and counties that qualified as large or medium MS4s and required an NPDES permit. (40 CFR § Part 122, Appendices F through I). No areas of Los Alamos County qualified as medium or large MS4s under the Phase I regulations.

Phase I also regulated stormwater discharges associated with industrial activity. LANL has an individual stormwater permit (NM0030759) that covers certain stormwater discharges from "industrial activity" (40 CFR § 122.26(b)(14)). However, the majority of LANL activities are not regulated as "stormwater discharge associated with industrial activity," and stormwater discharges from these activities are not currently regulated under the NPDES program.

EPA's Phase II stormwater regulations (64 FR 68722, December 8, 1999) included a requirement to permit small MS4s that are either located in an "urbanized area" under the latest Decennial Census or are otherwise designated by the NPDES permitting authority (40 CFR § 122.32(a)). Los Alamos County does not include any "urbanized areas" as defined by the Census Bureau in the 2010 Decennial Census and thus small MS4s in the County have not already been designated by rule. Nor have there been any designations of small MS4 discharges in the County on a case-by-case basis before today.

B. The Petition to Designate Stormwater Discharges from Los Alamos County

The Petition alleges that the currently non-regulated stormwater discharges from Los Alamos County are contributing to violations of NM WQS and asks EPA to use its residual designation authority to determine that these stormwater discharges "require National Pollutant Discharge Elimination System (NPDES) permits pursuant to section 402(p) of the Clean Water Act and/or designation as a municipal separate storm sewer system."

In support, the Petition cites the following information:

- White Rock is located in eastern Los Alamos County, above and within approximately 0.75 miles of the Rio Grande River. Pajarito Canyon goes through White Rock on its way towards the Rio Grande. Canada del Buey goes along the northern part of White Rock.

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<sup>3</sup> "Small MS4" is defined at 40 CFR § 122.26(b)(16) as "all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings."

- LANL property contains all or parts of seven primary watersheds that drain directly into the Rio Grande. Listed from north to south, these watersheds are: Los Alamos, Sandia, Mortandad, Pajarito, Water, Ancho, and Chaquehui Canyons. The Los Alamos Townsite and the urbanized areas of LANL drain into five canyons: Los Alamos, Pueblo, Sandia, Bayo and Mortandad Canyons. White Rock drains into Rio Grande.<sup>4 5</sup>
- The Petition alleges that urban stormwater pollution from Los Alamos County sites, particularly urban stormwater runoff from developed areas at LANL, the Los Alamos Urban Clusters, and the community of White Rock Canyon, is contributing to violations of NM WQS, including state WQS for PCBs, copper, zinc and nickel, and that as a result, these sites should be covered by an NPDES permit.

Although small MS4s in Los Alamos County are not automatically required to obtain NPDES permit coverage under EPA's stormwater regulations because the County does not include any "urbanized areas" as defined by the Census Bureau in the 2010 Decennial Census, Los Alamos County does have two "urban clusters" based on the results of the 2010 census.<sup>6</sup> According to the 2010 Census, the county has a population of 17,950. A Census-designated urban cluster contains a population of between 2,500 and 50,000. The main population center for Los Alamos County is called the Los Alamos Townsite. The Townsite is a Census-Designated Place (CDP) and according to the 2010 Census, the population of the CDP was 12,019.<sup>7</sup> According to the 2010 Census, the density of the Los Alamos Townsite CDP is 1,078.7 persons per square mile. A portion, but not all, of Los Alamos Townsite has been designated an "urban cluster" based on the results of the 2010 Census. That portion of Los Alamos Townsite designated as an "urban cluster" has a population of 10,893. The other densely inhabited place in the County is the community of White Rock, which is also a CDP. According to the 2010 Census, the population of White Rock is 5,725 and the density is 811.8 persons per square mile. A portion of the community of White Rock has also been designated as an "urban cluster," based on the results of the 2010 Census.<sup>8</sup> The White Rock Urban Cluster has a population of 5,039.

### C. Standards for Designation

CWA §§ 402(p)(2)(E) and 402(p)(6) provide the statutory authority for case-by-case designations of discharges composed entirely of stormwater. Under EPA's stormwater regulations promulgated pursuant to those statutory sections, small MS4s may be designated for NPDES permits pursuant to the following provisions:

- 40 CFR § 122.26(a)(9)(i)(C) -The Director determines that stormwater controls are needed for the discharge based on wasteload allocations (WLAs) that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern. Because there are no approved TMDLs with WLAs in the area, EPA is not relying on this authority.

<sup>4</sup>A Petition by Amigos Bravos for a Determination that Stormwater Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit

<sup>5</sup> Los Alamos National Laboratory Environmental Report 2012, 1-1 and 1-2 (2012) (LA-UR-13-27065)(2012 Environmental Report)

<sup>6</sup><https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html>. Accessed <11-21-2019>

<sup>7</sup> <https://www.census.gov/quickfacts/losalamoscdpnewmexico>. Accessed <11-21-2019>.

<sup>8</sup> <https://www.census.gov/quickfacts/whiterockcdpnewmexico> Accessed <11-21-2019>

- 40 CFR § 122.26(a)(9)(i)(D) – The Director (here the RA) determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a WQS or is a significant contributor of pollutants to waters of the United States.
- As explained above and below, EPA is relying on the first part of 40 CFR § 122.26(a)(9)(i)(D) for this designation.

### III. Basis for and Scope of EPA's Residual Designation Determination

Based on the authority of CWA § 402(p)(2)(E) and 40 C.F.R. §122.26(a)(9)(i)(D), and after review of available information, EPA has determined that stormwater discharges from MS4s located in the portion of Los Alamos County within the Los Alamos Urban Cluster and on LANL property within Los Alamos County and Santa Fe County are contributing to violations of NM WQS. As noted above, EPA examined the available data based on two factors: 1) evidence of water quality impairment; and 2) evidence that pollutant levels in the stormwater discharges are contributing to those impairments.

#### A. Review Criteria

##### 1. Evidence of Water Quality Impairment

EPA first looked to see if the receiving waters for stormwater discharges from the Los Alamos Urban Cluster, the White Rock Urban Cluster, and LANL are listed as impaired on the State of New Mexico's latest CWA section 303(d) list of impaired waters. Because a waterbody listed as impaired for a pollutant or pollutants has no remaining assimilative capacity for that pollutant(s), a discharge of stormwater containing that pollutant(s) would contribute to the impairment if the discharge contained levels of the pollutant(s) above NM's WQS.

EPA reviewed water quality impairment information contained in the 2012-2014 State of New Mexico Clean Water Act §303(d)/305(b) Integrated Report [hereinafter "2012-2014 303(d)/305(b) Report"], with updates from the 2014-2016, 2016-2018 and 2018-2020, State of New Mexico Clean Water Act §303(d)/305(b) Integrated Reports [hereinafter 2012-2014 303(d)/305(b) Report, 2014-2016 303(d)/305(b) Report 2016-2018 303(d)/305(b) Report and 2018-2020 303(d)/305(b) Report, respectively]. After consideration of the information in the state's Integrated Reports, as well as additional information provided by LANL and Los Alamos County, EPA finds the following:

- The 2012-2014 303(d)/305(b) Report shows Los Alamos Canyon within LANL property to be impaired for gross alpha, adjusted (a measurement of overall radioactivity and hereinafter referred to simply as "gross alpha")<sup>9</sup>, PCBs, aluminum, and copper.<sup>10</sup> The 2014-2016 303(d)/305(d) Report removed copper as a cause of impairment.<sup>11</sup> Mercury was

<sup>9</sup> 20.6.4.114.A NMAC defined at (5) as "Adjusted gross alpha" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample, including radium-226, but excluding

<sup>10</sup> State of New Mexico Water Quality Control Commission, 2012-2014 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (303d/305b Report). Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2019/10/AppendixA-USEPA-Approved303dList.pdf>

<sup>11</sup> State of New Mexico Water Quality Control Commission, 2014-2016 State of New Mexico Clean

added as a cause of impairment in the 2016-2018 303(d)/305(b) Report. In addition, as stated in the Petition, NMED data show levels of PCBs in Los Alamos Canyon downgradient from most of the urbanized areas at LANL to be over 11,000 times greater than the New Mexico Human Health water quality criteria and 51 times greater than the New Mexico Wildlife Habitat water quality criteria. The 2018-2020 303(d)/305(b) Report shows this canyon is impaired for gross alpha, PCBs, cyanide, selenium, and mercury.

- The 2012-2014 303(d)/305(b) Report shows Sandia Canyon to be impaired for PCBs, aluminum, copper, gross alpha, and mercury. In the 2014-2016 303(d)/305(b) Report and the 2016-2018 303(d)/305(b) Report,<sup>12</sup> thallium was added as a new cause of impairment. The 2018-2020 303(d)/305(b) Report<sup>13</sup> shows this canyon is impaired with Polychlorinated Biphenyls (PCBs), aluminum, gross alpha, and mercury.
- The 2012-2014 303(d)/305(b) Report shows Mortandad Canyon to be impaired for aluminum, copper, and gross alpha. In the 2014-2016 303(d)/305(b) Report, PCBs were added as a new cause of impairment. The 2016-2018 303(d)/305(b) Report has the same list of impairments as the 2014-2016 303d/305 Report. The 2018-2020 303(d)/305(b) Report shows this canyon is impaired with PCBs, copper, gross alpha, and mercury.
- The 2012-2014 303(d)/305(b) Report shows Pajarito Canyon to be impaired for gross alpha, aluminum, PCBs, and copper. For the 2014-2016 303(d)/305(b) Report, arsenic and selenium were added as new impairment parameters. The 2016-2018 303(d)/305(b) Report has the same list of impairments as the 2014-2016 303d/305 Report. The 2018-2020 303(d)/305(b) Report shows this canyon is impaired for gross alpha, aluminum, PCBs, mercury, and cyanide. Note that the portion of Pajarito Canyon from the Rio Grande to the LANL boundary (which goes through White Rock) is not listed as impaired by NMED.
- The 2012-2014 303(d)/305(b) Report shows Canada del Buey to be impaired for PCBs, aluminum, and gross alpha for at least the portion within LANL property. The 2014-2016 303(d)/305(b) Report removed aluminum as a cause of impairment. However, aluminum was added back to the list in the 2016-2018 303(d)/305(b) Report. Note that the section from the LANL boundary to San Ildefonso Pueblo has not been assessed. Based on the 2018-2020 303(d)/305(b) Report, this canyon is impaired for PCBs, gross alpha and, aluminum.
- The 2012-2014 303d/305b, 2014-2016 303(d)/305(b) Report, the 2016-2018 303(d)/305(b) Report and the 2018-2020 303(d)/305(b) Report show Pueblo Canyon (Acid Canyon to headwaters) to be impaired for gross alpha, PCBs, and aluminum. NMED data show levels of PCBs in Pueblo Canyon right in the middle of the Los Alamos urbanized area to be over 35,000 times greater than New Mexico's Human Health water quality criteria and 16 times greater than New Mexico's Wildlife Habitat water quality criteria.<sup>14</sup> The Rio Grande (Cochiti Reservoir to San Ildefonso boundary)

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*Water Act 303d/305b Integrated Report, Appendix A (303d/305b Report). Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2019/10/2014-2016NMList.pdf>*

<sup>12</sup> *State of New Mexico Water Quality Control Commission, 2016-2018 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (303d/305b Report). Available at:*

<sup>13</sup> *State of New Mexico Water Quality Control Commission, 2018-2020 State of New Mexico Clean Water Act 303d/305b Integrated Report, Appendix A (303d/305b Report). Available at: <https://www.env.nm.gov/wp-content/uploads/sites/25/2018/03/Appendix-A-Integrated-List.pdf>*

<sup>14</sup> *NMED, Pajarito Plateau Assessment for the 2010-2012 Integrated Report data set with PCBs and map of sampling stations <http://www.nmenv.state.nm.us/swq/b/303d-305b/2010-20>*

is listed as impaired for PCBs, turbidity, E. coli, and gross alpha. This is the downstream segment of the Rio Grande receiving most of the flows from the canyons in Los Alamos County, but also flows from the entire watershed above the Los Alamos area draining north central New Mexico and parts of Colorado. Impairments to waterbodies directly receiving stormwater discharges from Los Alamos County before that stormwater flows to the Rio Grande River provide a strong case for concluding that those discharges are contributing to impairments in the Rio Grande.

- None of the state's Integrated Reports dating back to 2012 show the receiving streams within the White Rock Urban Cluster to be impaired.

Note: Atmospheric deposition - toxics, inappropriate waste disposal, natural sources, watershed runoff following forest fire, post-development erosion and sedimentation and source unknown were listed as probable sources of impairment in the 2012-2014 303(d)/305(b) Report. However, starting with the 2014-2016 303(d)/305(b) Report, the NMED Surface Water Quality Bureau (SWQB) changed how probable sources were treated state-wide and removed previously reported probable source lists from the 2014-2016 303(d)/305(b) Report. Instead the State began using "Source Unknown" for all impairments unless the probable source(s) have been established as part of the Total Maximum Daily Load (TMDL) process.

Based on the above findings, EPA determined that the receiving waters for at least some of the stormwater discharges from LANL and the Los Alamos Urban Cluster are listed as impaired on the NM CWA § 303(d) list. That said, EPA found that none of the immediate receiving waters for stormwater discharges from the White Rock Urban Cluster are listed as impaired on the NM CWA § 303(d) list, although there are impairments listed for the Rio Grande River, which the White Rock receiving waters ultimately reach.

## 2. Evidence that Pollutants of Concern in the Stormwater Discharges from Los Alamos County Are Contributing to the CWA § 303(d) Impairments

EPA next examined the available data to determine whether at least some of the stormwater discharges from Los Alamos, White Rock, and LANL have maximum or median sampling results exceeding one or more of the NM's WQS for a parameter that was listed as a cause of impairment on the state's CWA section 303(d) list. Because waterbodies listed as impaired for a pollutant or pollutants have no remaining assimilative capacity for those pollutants, maximum or median sampling results exceeding the state's WQS for one or more of those pollutants indicates that those discharges contribute to a violation of that WQS.

The Petition alleges that available data and studies link the water quality impairment downgradient from the Pajarito Plateau to stormwater runoff from urban areas in Los Alamos County. In support, the Petition states as follows:

LANL conducted two detailed studies of stormwater runoff from the Pajarito Plateau. One study was on PCB contamination and the second was on metals contamination. In these studies, LANL collected samples from non-urban, non-laboratory influenced reference sites as well as from sites representing runoff from the urbanized areas of the Los Alamos Townsite. Neither the reference nor the urban sites were influenced by point source discharges covered by LANL's individual stormwater permit. These studies show a significant contribution of both PCBs and metals from urban runoff on the Pajarito Plateau.

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*12/Pajarito/index.html (Pajarito Plateau Study).*



The LANL PCB study found 40 of the 41 Los Alamos urban stormwater samples were above the New Mexico human health water quality criteria for PCBs and 19 of the 41 Los Alamos urban stormwater samples were above the New Mexico wildlife habitat water quality criteria for PCBs. ("PCB Report" <sup>15</sup> at 62).

Based on review of the data from the LANL PCB report, EPA also confirmed that heightened PCB concentrations above 100 ng/L were measured in Los Alamos County urban runoff (PCB report, pp 61-64). The higher concentrations are associated with the urban stormwater from the contribution of additional diffuse local sources in the urban environment

Based on an independent review of the data included in the LANL Metals Report, <sup>16</sup> as opposed to the conclusions reached by LANL within the report, EPA determined that storm water discharges from MS4s located in the portion of Los Alamos County within the Los Alamos Urban Cluster and on LANL property within Los Alamos County and Santa Fe County are contributing to exceedances of one or more NM WQS and therefore meet the criteria for designation.

After doing further analysis, EPA notes that the mean of the urban runoff samples exceeded at least one NM WQS for aluminum, cadmium, copper, or zinc. Also, the maximum urban runoff sample value exceeded at least one NMWQS for aluminum, cadmium, copper, and zinc. The mean of the urban runoff samples exceeded the mean of the background reference site samples for aluminum, cadmium, copper, and zinc (see appendix 4 for further analysis). The LANL studies of PCB and metal contaminated runoff tie these contaminants to the urban areas of the Pajarito Plateau. In LANL's 2013 request to EPA for alternative compliance with its NPDES discharge permit for industrial stormwater, the Laboratory argues that the cause of its exceedances of New Mexico water quality criteria for zinc and copper is urban runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts and other building materials.<sup>17</sup>

In their comments on the Petition, LANL and Los Alamos County dispute certain aspects of Petitioner's characterization of the information from the various LANL reports and the possible sources of pollutants. For instance, both LANL and Los Alamos County state that although the PCB report identifies baseline values, it does not state that urban development in Los Alamos County is contributing large amounts of PCBs to receiving waters. Further, both LANL and Los Alamos County point out, as noted by EPA in Section II.B above, that in the 2014-2016 303(d)/305(b) Report NMED has removed the probable source lists and replaced them with "Source Unknown."

As noted above, in the 2012-2014 303(d)/305(b) Report, the State of New Mexico found that water quality in Sandia, Mortandad, Pajarito, and Pueblo Canyons is impaired by urban stormwater-related causes with impervious surfaces, parking lots, and construction and development listed as probable sources of the impairment. While the 2014-2016 Report now lists the probable sources as "unknown," this does not necessarily indicate that any particular potential source has been ruled out. According to NMED, "The approach for identifying Probable Sources of Impairment" was modified by the SWQB starting with the 2012 listing cycle. Any new impairment listings are assigned a probable source of "Source

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<sup>15</sup> *Los Alamos National Laboratory, Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed 2 (May 2012) (LA-UR-12-1081) (PCB Report)*. Available at: <https://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-219767>

<sup>16</sup> *Los Alamos National Laboratory, Background Metals Concentrations and Radioactivity in Stormwater on the Pajarito Plateau Northern New Mexico 2 (April 2013) (LA-UR-13-22841) (Metals Report)*. Available at: <https://permalink.lanl.gov/object/tr?what=info:lanl-repo/epr/ERID-239557>

<sup>17</sup> *Alternative Compliance Request 2 at 31-2; Los Alamos National Laboratory, Alternative Compliance Request for S-SMA-.25 28 (April 2013) (Alternative Compliance Request .25)*

Unknown.” For the 2014 listing cycle, SWQB removed previously reported non-TMDL Probable Source listings from the Report and replaced them with “Source Unknown” for consistency. Therefore, all reported probable source listings on the state’s Integrated Lists have now been established through the TMDL process.”<sup>18</sup> As such, in making its final designation determination, EPA relied on independent analysis of stormwater quality data and receiving water impairment lists rather than on the probable source listings in the older NMED 303(d)/305(b) Reports.

Based on the Agency's independent review of all available information, EPA finds that pollutants associated with impairment are present at levels above WQS in stormwater discharges from MS4s located in the portion of Los Alamos County, New Mexico within the Los Alamos Urban Cluster as defined by the latest Decennial Census and on Los Alamos National Laboratory property located within Los Alamos County and Santa Fe County, New Mexico. As such, EPA determines that these discharges contribute to the impairments listed by the State. Again, no sampling data was available for stormwater discharges from the White Rock Urban Cluster.

#### A. Scope of Designation

40 CFR § 122.26(a)(9)(i)(D) allows for designation of a category of discharges within a geographic area, based upon a determination that the category “contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.”

After careful analysis of available information as discussed above, the Regional Administrator of EPA Region 6 is designating for NPDES permitting as regulated small MS4s the following:

- MS4s located in the portion of Los Alamos County, New Mexico within the Los Alamos Urban Cluster as defined by the latest Decennial Census, and
- MS4s located on Los Alamos National Laboratory property located within Los Alamos County and Santa Fe County, New Mexico.

This designation of regulated small MS4s requiring NPDES permit coverage applies to MS4s owned or operated by:

1. LANL including Triad National Security, LLC (Triad) and the U.S. Department of Energy's National Nuclear Security Administration (NNSA) located within Los Alamos County;
2. Los Alamos County located within the Los Alamos Urban Cluster as defined by the latest decennial Census;
3. New Mexico Department of Transportation (NMDOT) located within the Los Alamos Urban Cluster and as defined by the latest decennial Census; and
4. NMDOT located within and interconnected with regulated LANL (Triad and NNSA) storm sewer systems.

#### IV. Final Designation Decision

Based on its analysis of available information as discussed above, EPA has determined that stormwater discharges from MS4s located in the Los Alamos Urban Cluster and the LANL property are contributing to violations of NM WQS. Therefore, under the authority of CWA § 402(p)(2)(E) and 40 C.F.R. § 122.26(a)(9)(i)(D), EPA hereby designates MS4s located in the

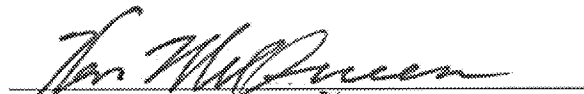
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<sup>18</sup> 2014 – 2016 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report FINAL November 18, 2014. Pg 56. Available at: <https://www.env.nm.gov/swqb/303d-305b/2014-2016/2014-2016NMReport.pdf>

portion of Los Alamos County, New Mexico within the Los Alamos Urban Cluster as defined by the latest Decennial Census, and MS4s located on Los Alamos National Laboratory property located within Los Alamos County and Santa Fe County, New Mexico as small MS4s requiring NPDES permit coverage.

EPA finds there is insufficient data to determine that discharges of stormwater from the White Rock Urban Cluster are contributing to a violation of NM WQS. Therefore, EPA is not designating those discharges as requiring NPDES permits.

Region 6 will be in touch with operators of the designated MS4s to set up a call to discuss permitting options under 40 CFR § 122.33.

  
DEC 16 2019

Dated:

*Ken McQueen*

*Regional Administrator, Region 6*

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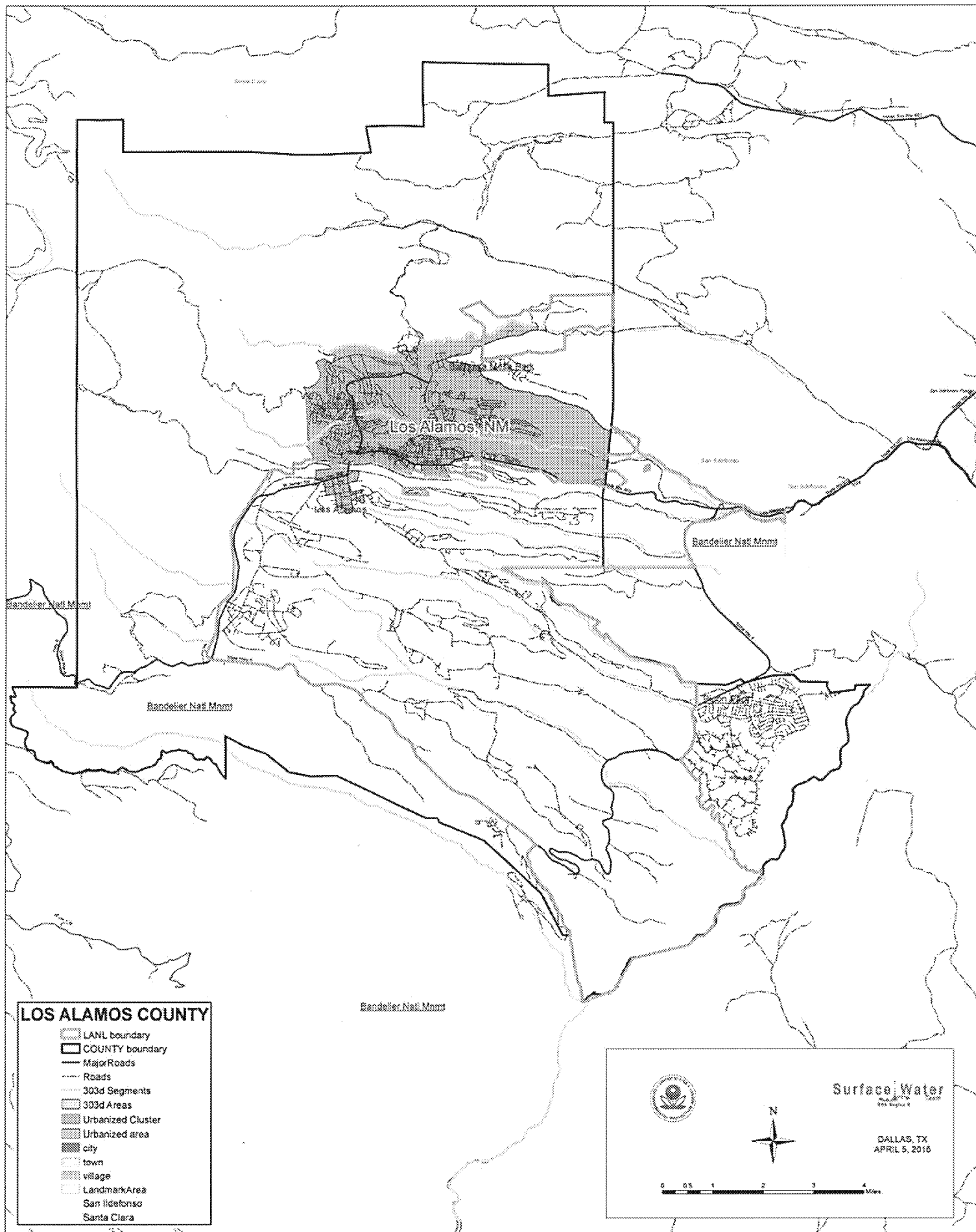
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## Appendix 1: Los Alamos, LANL and NMDOT (State Hwy) Map









## Appendix 2: Amigos Bravos Petition and Supporting Documents



**A Petition by Amigos Bravos  
for a Determination that Storm Water Discharges  
in Los Alamos County  
Contribute to Water Quality Standards Violations  
and Require a Clean Water Act Permit**

June 30, 2014

Ron Curry, Regional Administrator  
EPA Region 6  
1445 Ross Avenue, Suite 1200, Dallas, Texas 75202  
gray.david@epa.gov

Dear Administrator Curry,

As the Regional Administrator of EPA Region 6, Amigos Bravos hereby petitions you for a determination, pursuant to 40 C.F.R. 122.26(a)(9)(i)(D), that non-de minimis, currently non-NPDES permitted storm water discharges in Los Alamos County are contributing to violations of water quality standards in certain impaired waters throughout the area, and therefore require a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402(p) of the Clean Water Act and/or designation as a municipal separate storm sewer system. *See* 33 U.S.C. §§ 1342(p)(2)(E), (p)(6); 40 C.F.R. §§ 122.26(a)(1)(v), (a)(9)(i)(D), (f)(2), (f)(4).

**I. Regulatory Framework**

In order to achieve the Clean Water Act's (CWA or the Act) fundamental goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters,"<sup>33</sup> U.S.C. § 1251(a), EPA and states delegated authority to administer the Act must establish minimum water quality standards. 33 U.S.C. § 1313; 40 C.F.R. § 131.2. These standards define "the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses." 40 C.F.R. § 131.2. New Mexico has established, and EPA has approved, water quality standards pursuant to this requirement.

In order to ensure that such water quality standards will be achieved, no person may discharge any pollutant into waters of the United States from a point source without a National Pollutant Discharge Elimination System (NPDES) permit. 33 U.S.C. §§ 1311(a), 1362(12)(A). NPDES permits must impose water quality-based effluent limitations, in addition to any applicable technology-based effluent limitations, when necessary to meet water quality standards. 33 U.S.C. § 1311(b).

The Act defines "point source" as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit . . . from which pollutants are or may

be discharged.” 33 U.S.C. § 1362(14). EPA’s Clean Water Act regulations further specify that “discharge of a pollutant” includes “additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man.” 40 C.F.R. § 122.2. Consequently, although storm water discharges are often characterized as “non-point” in nature, it is legally well settled that “[s]torm sewers are established point sources subject to NPDES permitting requirements.” *Environmental Defense Center v. EPA*, 344 F.3d 832, 841 (9<sup>th</sup> Cir. 2003) (citing *Natural Resources Defense Council v. Costle*, 568 F.2d 1369, 1379 (D.C. Cir. 1977)). As EPA has stated, “[f]or the purpose of [water quality] assessments, urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the CWA.” National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990, 47,991 (Nov. 16, 1990).

Despite the fact that storm water runoff channeled through a conveyance is a point source subject to the Act’s permitting requirements, EPA did not actually regulate storm water through the NPDES program until Congress amended the statute in 1987 to explicitly require it, *see* 33 U.S.C. § 1342(p), and EPA promulgated its Phase I and II regulations in 1990 and 1999, respectively.<sup>1</sup> As a result, the Clean Water Act now requires NPDES permits for discharges of industrial and municipal storm water. 33 U.S.C. § 1342(p)(2). While these are the only categories of storm water discharges called out for regulation in the text of the statute, Congress also created a catch-all provision directing EPA to require NPDES permits for any storm water discharge that the Administrator or the State director determines “contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” 33 U.S.C. § 1342(p)(2)(E); 40 C.F.R. § 122.26(a)(1)(v).

This catch-all authority – known as EPA’s “residual designation authority” (RDA) – is a critical tool to ensure that problematic discharges of storm water do not go unregulated. In the preamble to its Phase II Storm water regulations, EPA described the need for this authority: “EPA believes . . . that individual instances of storm water discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today’s rule preserves the regulatory authority to subsequently address a source (or category of sources) of storm water discharges of concern on a localized or regional basis.”<sup>2</sup>

Citizens may petition EPA for designation of storm water sources for regulation under this authority. 40 C.F.R. § 122.26(f)(2) and (f)(4). In recent years, often acting in response to such petitions, EPA and delegated states have exercised this residual designation authority on multiple

<sup>1</sup> National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, 55 Fed. Reg. 47,990 (Nov. 16, 1990); National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. 68,722 (Dec. 8, 1999).

<sup>2</sup> National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Reg. at 68,781.

<sup>3</sup> U.S. EPA Region IX, Request for Designation of MS4 Discharges on the Island of Guam for NPDES Permit Application (Feb. 2001) [discharge elimination system regulations for revision of the water pollution control program address storm water discharges, 64 Fed. Reg. at 68,781].

occasions.<sup>3</sup>

Once EPA has made a finding or determination that a category of discharges meets the statutory criterion of “contribut[ing] to a violation of a water quality standard,” it must designate that category for regulation, and those “operators shall be required to obtain a NPDES permit.” 40 C.F.R. § 122.26(a)(9)(i)(D). In other words, “the Agency’s residual designation authority is not optional.” *In re Storm water NPDES Petition*, 910 A.2d 824, 835-36 (Vt. 2006). As EPA has explained, “designation is appropriate as soon as the adverse impacts from storm water are recognized.” Letter from G. Tracy Mehan III, EPA Assistant Administrator, to Elizabeth McLain, Secretary, Vermont Agency of Natural Resources 2 (Sept. 16, 2003).<sup>4</sup>

EPA has not defined a threshold level of contribution to water quality standards violations that would suffice to make such a determination. However, the agency has advised delegated states that “it would be reasonable to require permits for discharges that contribute more than *de minimis* amounts of pollutants identified as the cause of impairment to a water body.” *Id.*

In New Mexico, EPA Region VI is the permitting agency. Thus, the Region would make a determination under 40 C.F.R. § 122.26(a)(9) whether a storm water discharge is contributing to a water quality standards violation or is a significant contributor of pollutants. Once you receive an RDA petition requesting that EPA exercise this authority, the Agency must make a final decision on the petition within 90 days. 40 C.F.R. § 122.26(f)(5).

In responding to similar petitions filed last year, EPA Regions I, III and IX have indicated that they considered five factors. We do not concede that these five factors are consistent with the relevant provisions of the Clean Water Act or EPA’s implementing regulations; however, they provide a useful framework for this analysis. The factors are:

1. Likelihood of exposure of pollutants to precipitation at sites in the categories identified in the petition;
2. Sufficiency of available data to evaluate the contribution of stormwater discharges to water quality impairment from the targeted categories of sites;
  - a. Data with respect to determining causes of impairment in receiving water quality;
  - b. Data available from establishment of Total Maximum Daily Loads;

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<sup>3</sup> U.S. EPA Region IX, Request for Designation of MS4 Discharges on the Island of Guam for NPDES Permit Coverage (Feb. 2011), available at <http://www.epa.gov/region9/water/npdes/pdf/guam/Guam-ms4-residual-designation-memo.pdf>; Vermont Agency of Natural Resources, Department of Environmental Conservation, Final Designation Pursuant to the Clean Water Act for Designated Discharges to Bartlett, Centennial, Englesby, Morehouse and Potash Brooks (Nov. 2009), available at [http://www.vtwaterquality.org/stormwater/docs/swimpairedwatersheds/sw\\_rda\\_permit\\_FINAL.pdf](http://www.vtwaterquality.org/stormwater/docs/swimpairedwatersheds/sw_rda_permit_FINAL.pdf); U.S. EPA Region I, Final Determination Under Section 402(p) of the Clean Water Act—Long Creek (Oct. 2009), available at <http://www.epa.gov/region1/npdes/stormwater/assets/pdfs/LongCreekFinalResidualDesignation.pdf>; U.S. EPA Region I, Residual Designation Pursuant to Clean Water Act—Charles River (Nov. 2008), available at <http://www.epa.gov/region1/charles/pdfs/RODfinalNov12.pdf>.

<sup>4</sup> All documents cited in this Petition and the attached Statement of Facts are provided in the Appendix, which is submitted as part of the Petition.

3. Whether other federal, state, or local programs adequately address the known stormwater discharge contribution to a violation of a water quality standard.<sup>5</sup>

Additional factors can be found in Addendum D to a Region VI document titled "FACT SHEET, August 29, 2003, Proposed Issuance of National Pollutant Discharge Elimination System (NPDES) Storm Water General Permit for Small Municipal Separate Storm Sewer Systems (MS4s)" [hereinafter "Region VI Fact Sheet"]. The Region VI Fact Sheet details the results of an effort by EPA to determine the need for MS4 coverage within the region. The factors listed in Addendum D were used to decide which MS4s would be included in the general permit. The factors are:

- 1) Does the MS4 discharge storm water to sensitive waters?

"Sensitive waters" generally include public drinking water intakes and their designated protection areas; swimming beaches and waters in which swimming occurs; shellfish beds; state-designated Outstanding Resource Waters; National Marine Sanctuaries; waters within Federal, State and local parks; and waters containing threatened or endangered species and their habitat. Discharges of storm water to sole-source aquifers will be considered by EPA Region 6 on a case-by-case basis.

- 2) Is the MS4 a significant contributor of pollutants to waters of the United States?

A municipal storm water discharge that has been identified as a "contributing source of pollutants" to a Clean Water Act section 303(d)-listed waterway will be considered a significant contributor of pollutants for purposes of designation decisions. A storm water discharger that is required to reduce loading through an EPA-approved Total Maximum Daily Load (TMDL) analysis shall also be considered a significant contributor of pollutants to waters of the United States.

- 3) Is the MS4 densely populated?

Population density is related to the level of human activity, and has been shown to be directly linked to total impervious land surfaces; impervious surfaces are directly related to pollutant loadings from storm water runoff. EPA is also taking into consideration whether or not the MS4 serves a larger seasonal or commuter population.

- 4) Has the MS4 experienced high population growth over the last 10 years?

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<sup>5</sup> Enclosure to Letter from H. Curtis Spalding, Regional Administrator, EPA Region I, to Jeffrey Odefey, Christopher Kilian, and Jon Devine 4 (March 11, 2014); Enclosure to Letter from Shawn M. Garvin, Regional Administrator, EPA Region III, to Jeffrey Odefey, Director of Storm water Programs, American Rivers 6 (March 12, 2014); Enclosure to Letter from Jared Blumenfeld, Regional Administrator, EPA Region IX, to Jeffrey Odefey, Director of Storm water Programs, American Rivers 5 (March 12, 2014) [hereinafter "March 2014 Letters"].



High population growth or growth potential means the local residential population has grown by 10% or more, based upon the latest Census Bureau information. A discussion on selection of 10% as a high growth rate outside urbanized areas was included in the proposed Phase II regulations published January 9, 1998 (63 FR 1561).

5) Is the MS4 contiguously located to an Urbanized Area?

Jurisdictions that are directly adjacent to a U.S. Census Bureau-defined Urbanized Area will be considered to have potential impacts on a neighboring regulated municipality.

6) Is the MS4 physically interconnected to another MS4?

As required by 40 CFR 123.35 (b)(4), an MS4 located outside a UA that contributes substantially to the pollutant loadings of a physically interconnected MS4 already regulated under Phase II must be included in the program. To be "physically interconnected," the MS4, including roads with drainage systems and municipal streets, is physically connected directly to a municipal separate storm sewer of another entity.

7) Is the storm water runoff from this MS4 effectively addressed by other water quality programs?

EPA will consider, on a case-by-case basis, whether the storm water runoff from a potentially designated MS4 is effectively addressed under other regulations or programs, such as the Coastal Zone Act Reauthorization Amendments, the National Estuary Program under Clean Water Act section 320, and/or other non-point source programs. Information in support of this criterion should be provided directly to EPA Region 6 by the candidate MS4.

Region VI Fact Sheet at 51-3 (Addendum D). In the Fact Sheet EPA describes the analytical process it used: "water quality considerations and overall impacts of storm water discharges will be given more 'weight' than population characteristics in this decision-making process." *Id.* at 53.

## **II. Factual Background**

A statement that summarizes the undisputed facts and some relevant documents is attached as Exhibit A, and is incorporated herein by reference. A summary of this statement is set forth below:

### **A. LAY OF THE LAND**

Los Alamos County is located in north-central New Mexico, approximately 60 miles north northeast of Albuquerque and 25 miles northwest of Santa Fe. Statement of Facts in Support of Amigos Bravos' Petition at 1 (Paragraph 1) (Attached as "Exhibit A") [hereinafter "Statement of

Facts”]. The main population center is called the Los Alamos Townsite. *Id.* (Paragraph 2). The other densely inhabited place in the County is the community of White Rock Canyon. *Id.* Los Alamos County is also home to the 36 square mile Los Alamos National Laboratory (LANL or the Laboratory). *Id.* (Paragraph 4).

The Los Alamos Townsite and the urbanized areas of LANL sit on the Pajarito Plateau. *Id.* (Paragraph 5). The Pajarito Plateau consists of a series of finger-like mesas separated by deep east-to-west-oriented canyons cut by streams. *Id.* (Paragraph 6). Most Laboratory and community developments are confined to the mesa tops. *Id.* Urban landscapes at the Townsite and at LANL include parking lots, roads, and structures. *Id.* (Paragraph 7).

LANL property contains all or parts of seven primary watersheds that drain directly into the Rio Grande. *Id.* at 2 (Paragraph 11). Listed from north to south, these watersheds are: Los Alamos, Sandia, Mortandad, Pajarito, Water, Ancho, and Chaquehui Canyons. The Los Alamos Townsite and the urbanized areas of LANL drain into five canyons: Los Alamos, Pueblo, Sandia, Bayo and Mortandad Canyons. *Id.*

## **B. WATER IMPAIRMENT**

The Statement of Facts provides a detailed discussion of urban-related surface water pollution downgradient from LANL and the Los Alamos Townsite.

### **1. Several Canyons are Impacted by Runoff Pollution**

Los Alamos Canyon within LANL property is impaired for gross alpha (a measurement of overall radioactivity), PCBs, aluminum, copper, mercury, and zinc. *Id.* (Paragraph 16). New Mexico Environment Department (NMED) data show levels of PCBs in Los Alamos Canyon downgradient from most of the urbanized areas at LANL to be over 11,000 times greater than the New Mexico Human Health water quality criteria and 51 times greater than the New Mexico Wildlife Habitat water quality criteria. *Id.* at 3 (Paragraph 18).

Sandia Canyon is impaired for PCBs, aluminum, copper, gross alpha, and mercury. *Id.* (Paragraph 19). Post-development erosion and sedimentation are listed as sources of impairment in the 2012-2014 State of New Mexico Clean Water Act 303b/305b 2014 Integrated Report [hereinafter “303b/305b Report”]. Statement of Facts at 3 (Paragraph 19). NMED data show levels of PCBs in Sandia Canyon below much of the urbanized areas at LANL to be over 14,000 times greater than the New Mexico Human Health water quality criteria and 66 times greater than the New Mexico Wildlife Habitat water quality criteria. *Id.* (Paragraph 20). In a 2013 request to EPA for alternative compliance with its Clean Water Act discharge permit, LANL explains that copper, zinc, and PCB storm water pollution above New Mexico water quality standards was from urban storm water sources. *Id.* at 7 (Paragraph 56).

Mortandad Canyon is impaired for aluminum, copper and gross alpha. *Id.* at 2 (Paragraph 15). Impervious surface/parking lot runoff, post-development erosion and sedimentation, and watershed runoff following forest fire are listed as sources of impairment in the 303b/305b Report. *Id.*

Pajarito Canyon is impaired for gross alpha, aluminum, PCBs, and copper. *Id.* at 3 (Paragraph 21). Post-development erosion and watershed runoff following forest fire are listed as sources of impairment in the 303b/305b Report. *Id.*

Pueblo Canyon is impaired for gross alpha, PCBs, aluminum, copper, and zinc. *Id.* at 2 (Paragraph 13). Industrial/commercial site storm water discharge, post-development erosion and sedimentation are listed as sources of impairment by the NMED in the 303b/305b Report. *Id.* NMED data show levels of PCBs in Pueblo Canyon right in the middle of the Los Alamos urbanized areas to be over 3,500 times greater than the New Mexico Human Health water quality criteria and 16 times greater than the New Mexico Wildlife Habitat water quality criteria. *Id.* (Paragraph 14).

## 2. Urban Runoff is the Cause

The data and studies summarized in the Statement of Facts firmly link the water quality impairment downgradient from the Pajarito Plateau to storm water runoff from urban areas.

LANL conducted two detailed studies of storm water runoff from the Pajarito Plateau. One study focused on PCB contamination and the second focused on metals contamination. In these studies LANL collected samples from non-urban, non-laboratory influenced reference sites as well as from sites representing runoff from the urbanized areas of the Los Alamos Townsite. Neither the reference nor the urban sites were influenced by point source discharges from LANL's individual storm water permit. These studies show a significant contribution of both PCBs and metals from urban runoff on the Pajarito Plateau.

The LANL PCB study found 40 of the 41 Los Alamos urban storm water samples were above the New Mexico human health water quality criteria for PCBs and 19 of the 41 Los Alamos urban storm water samples were above the New Mexico wildlife habitat water quality criteria for PCBs. *Id.* at 4 (Paragraphs 33-34). The LANL report concluded that suspended PCBs carried by urban runoff from the Los Alamos Townsite were 10 to 200 times more enriched with PCBs than at non-urban influenced Pajarito Plateau sites. *Id.* at 5 (Paragraph 36).

In 2007 the NMED collected storm water samples from urban sites containing PCBs as high as 255 times the state's PCB human health water quality criteria. *Id.* at 8 (Paragraph 64). NMED sampling data in 2006 and 2007 show levels of PCBs in storm water draining off of urban areas in Los Alamos Townsite to be more than 34,000 times greater than the NM Human Health water quality criteria. *Id.* (Paragraph 65).

A Laboratory study of metals contamination in storm water runoff from urban areas at LANL and the Los Alamos Townsite found exceedances of New Mexico water quality criteria for cadmium, copper, and zinc. *Id.* at 6 (Paragraphs 43-50). In addition, the LANL metals report demonstrated that values for copper, zinc and nickel in urban storm water runoff in Los Alamos County substantially exceeded non-urban influenced Pajarito Plateau storm water concentrations. *Id.* at 6-7 (Paragraphs 49-51).

As noted above, in its 303b/305b Report the State of New Mexico found that water quality in Sandia, Mortandad, Pajarito, and Pueblo Canyons is impaired because of urban-related causes such as impervious surfaces, parking lots, construction and development. *Id.* at 2-3 (Paragraphs 13, 15, 19, 21). NMED data also shows substantial water quality impairment in Los Alamos Canyon downgradient from most of the urbanized areas at LANL. *Id.* at 8 (Paragraph 64).

The LANL studies of PCB and metal contaminated runoff tie these contaminants to the urban areas of the Pajarito Plateau. In LANL's 2013 request to EPA for alternative compliance with its Clean Water Act discharge permit, the Laboratory argues that the cause of its exceedances of New Mexico water quality criteria for zinc and copper is urban runoff from sources such as motor oil accumulation on parking lots, brake pad and tire material released on pavement, galvanized fencing, culverts and other building materials. *Id.* at 5 (Paragraphs 38-41).

### III. Analysis

Los Alamos County and LANL have a storm water pollution problem. The NMED's 2006 and 2007 data shows dramatic exceedances of the state's PCB human health water quality criteria. The state's 303b/305b Report documents many more exceedances of standards – for a variety of pollutants and locations – and identifies storm water runoff as a major cause. LANL's own documents confirm these findings and identify urban runoff as the culprit.

#### A. EVALUATION FACTORS FROM MARCH 2014 LETTERS

The evaluation factors from the March 2104 Letters confirm that this Petition should be granted.

Factor one is the “[l]ikelihood of exposure of pollutants to precipitation at sites in the categories identified in the petition.” The 303b/305b Report and the LANL reports show that exceedances of state water quality criteria are associated with storm water; in other words, precipitation comes in contact with sites within Los Alamos County containing pollutants that end up in the storm water flow.

The Petition also meets the second factor, “sufficiency of available data to evaluate the contribution of stormwater discharges to water quality impairment from the targeted categories of sites.” The first sub-factor is the sufficiency of “[d]ata with respect to determining causes of impairment in receiving water quality.” The 2006/2007 NMED data, the 303b/305b Report, the LANL PCB and metals reports and the LANL requests for alternative compliance all provide data and/or analysis that support the Petition. The second sub-factor, the sufficiency of “[d]ata available from establishment of Total Maximum Daily Loads,” is not relevant here as there are no TMDLs for the water-bodies at issue.

Finally, the third factor, “[w]hether other federal, state, or local programs adequately address the known stormwater discharge contribution to a violation of a water quality standard,” is also met. As noted above, there is no TMDL that addresses this storm water-borne pollution. Further, the individual permits for LANL and Los Alamos County do not cover storm water discharges from the urbanized features that generate the pollution. The LANL requests for

alternative compliance repeatedly state that there is no mechanism under the Laboratory's individual storm water permit to control the water quality exceedances found in their sampling because the pollution is caused by runoff from urban features.

EPA's Multi Sector General Permit (MSGP) provides no protection from the sources of pollution involved here. The MSGP applies to operators of storm water discharges associated with thirty different industrial activities, such as scrap recycling facilities, auto salvage yards, and steam electric generating facilities. However, the MSGP does not cover general urban storm water discharges such as the discharges from parking lots and roads that are causing the toxic runoff in Los Alamos County.

#### **B. FACTORS FROM REGION VI FACT SHEET**

Application of the factors in the Region VI Fact Sheet also supports this petition.

Factor one is, "[d]oes the MS4 discharge storm water to sensitive waters?" Sub-factors identified by EPA include public drinking water intakes, swimming areas, federal and state parks and threatened or endangered species. Factor one is met for a variety of reasons.

Regarding intake for public drinking water systems, both Santa Fe's and Albuquerque's public water intakes are potentially affected. The runoff from Los Alamos is enough of a public health concern to the downstream City of Santa Fe that it shuts down its surface water diversion on the Rio Grande (the receiving water for runoff from Los Alamos County) used to supply drinking water when storm water flows from Los Alamos are predicted. Statement of Facts at 8-9 (Paragraph 66). Farther downstream, the City of Albuquerque draws fifty percent or more of its drinking water from a surface diversion on the Rio Grande. *Id.* at 9 (Paragraph 67). Consistent with this, the designated uses to be supported by New Mexico Water Quality Standards for the Rio Grande from the Cochiti Pueblo boundary to north of where runoff from Los Alamos' canyons enters the river include "primary contact" (that is, ingestion) and "public water supply." *Id.* (Paragraph 68).

Regarding the sub-factor for swimming areas, the Rio Grande feeds Cochiti Lake, which is a very popular swimming location in the summer for residents of Albuquerque and others. *Id.* (Paragraph 69).

Regarding the sub-factor for federal and state parks, the Rio Grande is adjacent to Bandelier National Monument and makes up more than four miles of its eastern boundary. *Id.* (Paragraph 70).

Finally, although they are not threatened or endangered, the Rio Grande provides habitat for re-introduced river otters, which have been observed below the point where the Los Alamos canyons intersect the river. *Id.* (Paragraph 71).

Factor two is, "[i]s the MS4 a significant contributor of pollutants to waters of the United States?" The Region VI Fact Sheet, in explaining this factor notes, "[a] municipal storm water discharge that has been identified as a 'contributing source of pollutants' to a Clean Water Act

section 303(d)-listed waterway will be considered a significant contributor of pollutants for purposes of designation decisions.” Region VI Fact Sheet at 52. The 303b/305b Report identifies storm water discharges from Los Alamos County as causes for the impairment to several water courses discharging into the Rio Grande. Further, the LANL PCB and metals reports as well as its request for alternative compliance confirm that exceedances of water quality standards are caused by storm water discharges from Los Alamos County.

Factor three, “[i]s the MS4 densely populated?” is met because Los Alamos has been designated as an “urban cluster,” based on the results of the 2010 census. 77 Fed. Reg. 18,651, 18,662 (Mar. 27, 2012). In addition Los Alamos Townsite meets the small MS4 definition as detailed in 40 CFR 122.32 in that it has a population greater than 10,000 and a population density of greater than 1,000 per square mile. Statement of Facts at 1 (Paragraph 2). Adding to the density in Los Alamos County is its growing commuter population. As of the year 2000 the commuter population in the county was 8,673 and had grown steadily from 1980 through 2000. *Id.* (Paragraph 3). By 2010 the commuter population had grown to 9,072. *Id.*

Factor three, “[h]as the MS4 experienced high population growth over the last 10?” is not met based on permanent population but the commuter population has grown steadily, as noted above.

Factors five and six – whether contiguous to an urbanized area, and whether physically interconnected to another MS4 -- are not met. However, as the Region VI Fact Sheet explains at page 53: “water quality considerations and overall impacts of storm water discharges will be given more ‘weight’ than population characteristics in this decision-making process.”

Factor seven, “Is the storm water runoff from this MS4 effectively addressed by other water quality programs?” is the same as the third factor from the March 2014 Letters. This factor is met as noted above.

### C. THE PETITION SHOULD BE GRANTED

Petitioner Amigos Bravos, and others, have repeatedly requested LANL and Los Alamos County to address this pollution and also requested that EPA Region VI mandate such efforts. MS4 coverage is required to address this pollution.

Based on the well-documented water quality impairment caused by urban runoff from Los Alamos County sites, Amigos Bravos requests that EPA require an individual NPDES permit (or permits)<sup>6</sup> for these discharges into municipal separate storm sewer systems. In the alternative, Amigos Bravos requests that EPA designate the systems through which these discharges travel

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<sup>6</sup> Because of its existing monitoring infrastructure and baseline studies as well as the unique concerns associated with storm water flows mobilizing historic contamination from the Lab, Amigos Bravos believes LANL should have an individual MS4 permit with appropriate treatment and monitoring requirements. See Letter from Rachel Conn to William Honker (June 30, 2014) (copy provided in the Appendix). However, whatever form the permit takes -- whether general or individual -- EPA has a responsibility to protect water quality by subjecting urban stormwater from the Los Alamos to Clean Water Act regulation.

as a municipal separate storm sewer system under the Act and add it to the general permit.

For all the foregoing reasons, the Petition has merit and should be granted.

Sincerely,

/s/ Rachel Conn

Rachel Conn  
Projects Director  
Amigos Bravos

Cc: William K. Honker  
Claudia V. Hosch  
Brent Larsen  
Nancy K. Stoner  
Michael H. Shapiro  
Sarah Holcomb, NMED





## Statement of Facts in Support of Amigos Bravos' Petition<sup>1</sup>

1. Los Alamos County is located in north-central New Mexico, approximately 60 miles north northeast of Albuquerque and 25 miles northwest of Santa Fe.<sup>2</sup>
2. According to the 2010 Census, the county has a population of 17,950. The main population center is called the Los Alamos Townsite. The Townsite is a Census Designated Place (CDP) and according to the 2010 Census the population of the CDP was 12,019. According to the 2010 Census, the density of the Los Alamos Townsite CDP is 1,078.7 persons per square mile. The other densely inhabited place in the County is the community of White Rock Canyon, which is also a CDP. According to the 2010 Census the population of White Rock Canyon is 5,725 and the density is 811.8 persons per square mile. 2010 Census, <http://quickfacts.census.gov/qfd/states/35/3542320.html>
3. The number of commuters who work in Los Alamos County but live elsewhere has increased from 1980 to 2000.<sup>3</sup> In 1980 the number of commuters was 4,263, which increased to 6,485 in 1990. The year 2000 figure is 8,673. In 2010 the number of commuters had increased to 9,072.<sup>4</sup>
4. Los Alamos County is home to the 36 square mile Los Alamos National Laboratory (LANL), which was founded to undertake the Manhattan Project.<sup>5</sup>
5. The Los Alamos Townsite and the urbanized areas of LANL sit on the Pajarito Plateau.
6. The Pajarito Plateau consists of a series of finger-like mesas separated by deep east-to-west-oriented canyons cut by streams. The mesa tops range in elevation from approximately 7,800 feet on the flanks of the Jemez Mountains to about 6,200 feet at the edge of White Rock Canyon. Most Laboratory and community developments are confined to the mesa tops. 2012 Environmental Report at 1-2.
7. Urban landscapes at the Townsite and at LANL include parking lots, roads, and structures ranging in age from the 1940s to 2012. These features release a variety of soluble and insoluble constituents to storm water, including metals and organic

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<sup>1</sup> All the documents reference herein are included in the Appendix, which accompanies the Petition.

<sup>2</sup> Los Alamos National Laboratory, *Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed 2* (May 2012) (LA-UR-12-1081) (PCB Report).

<sup>3</sup> Los Alamos County Community Development Department, *Los Alamos County Affordable Housing Plan* 38 (Jan. 14, 2010) (Table 14),

[www.losalamosnm.us/cdd/Documents/Affordable%20Housing/LAAffordableHousingPlan2010.pdf](http://www.losalamosnm.us/cdd/Documents/Affordable%20Housing/LAAffordableHousingPlan2010.pdf)

<sup>4</sup> U.S. Census Bureau, *Table 2. Residence County to Workplace County Flows for the United States and Puerto Rico Sorted by Workplace Geography: 2006-2010*

<http://www.census.gov/population/metro/data/other.html> (sum of column E values for rows 73589-621; omitting row 73604).

<sup>5</sup> Los Alamos National Laboratory, *Los Alamos National Laboratory Environmental Report 2012*, 1-1 and 1-2 (2012) (LA-UR-13-27065) (2012 Environmental Report).

compounds.<sup>6</sup>

8. LANL lies in the upper Rio Grande watershed denoted by U.S. Geological Survey (USGS) hydrologic unit codes 13020101 and 1301000. <http://water.usgs.gov/wsc/reg/13.html>.
9. LANL has approximately 2,800 structures with approximately 8.6 million square feet of roof space. 2012 Environmental Report at 1-7.
10. The Laboratory has a footprint of developed area that is consistent with urban development. Metals Report at 5.
11. LANL property contains all or parts of seven primary watersheds that drain directly into the Rio Grande. Listed from north to south, these watersheds are Los Alamos (includes Pueblo, DP and Bayo Canyons), Sandia, Mortandad, Pajarito, Water, Ancho, and Chaquehui Canyons. 2012 Environmental Report at 6-2. A map of these watersheds can be found at in the 2012 Environmental Report at page 6-3.
12. The Los Alamos Townsite and the urbanized areas of LANL drain into 7 canyons – Los Alamos Canyon, DP Canyon, Pueblo Canyon, Sandia Canyon, Pajarito Canyon, Bayo Canyon and Mortandad Canyon. 2012 Environmental Report at 6-3.
13. Pueblo Canyon is impaired for Gross Alpha, PCBs, Aluminum, Copper, and Zinc. Industrial/commercial site storm water discharge, post-development erosion and sedimentation are listed as sources of impairment.<sup>7</sup>
14. New Mexico Environment Department (NMED) data presented in NMED's Pajarito Plateau Assessment show levels of PCBs in Pueblo Canyon right in the middle of the urbanized areas at LANL and at Los Alamos Townsite (sampling station EO55) to be over 3,500 times greater than the New Mexico Human Health WQC and 16 times greater than the New Mexico Wildlife Habitat WQC.<sup>8</sup>
15. Mortandad Canyon is impaired for Aluminum, Copper and Gross Alpha. Impervious surface/parking lot runoff, post-development erosion and sedimentation, and watershed runoff following forest fire are listed as sources of impairment. 303b/305b 2014 Report, Appendix A at 238.
16. Los Alamos Canyon within LANL property is impaired for Gross Alpha, PCBs, Aluminum, Copper, Mercury, and Zinc. *Id.* at 125 and 127.

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<sup>6</sup> Los Alamos National Laboratory, *Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau Northern New Mexico 2* (April 2013) (LA-UR-13-22841) (Metals Report).

<sup>7</sup> State of New Mexico Water Quality Control Commission, *2012-2014 State of New Mexico Clean Water Act 303b/305b 2014 Integrated Report* Appendix A, 137 to 139 (303b/305b Report).

<sup>8</sup> NMED, *Pajarito Plateau Assessment for the 2010-2012 Integrated Report* data set with PCBs and map of sampling stations <http://www.nmenv.state.nm.us/swqib/303d-305b/2010-2012/Pajarito/index.html> (Pajarito Plateau Study).

17. Los Alamos Canyon from the Los Alamos Reservoir to headwaters, located above urbanized areas fully supports all assessed designated uses. *Id.* at 126.
18. NMED data presented in NMED's Pajarito Plateau Assessment show levels of PCBs in Los Alamos Canyon, which is located below most of the urbanized areas at LANL (sampling station E030), to be over 11,000 times greater than the New Mexico Human Health WQC and 51 times greater than the New Mexico Wildlife Habitat WQC. See Pajarito Plateau Study (data set with PCBs and map of sampling stations).
19. Sandia Canyon is impaired for PCBs, Aluminum, Copper, Gross Alpha, and Mercury. Post-development erosion and sedimentation are listed as sources of impairment. 303b/305b 2014 Report, Appendix A at 250-51.
20. NMED data presented in NMED's Pajarito Plateau Assessment show levels of PCBs in Sandia Canyon, which is located below most of the urbanized areas at LANL (sampling station E123), to be over 14,000 times greater than the New Mexico Human Health WQC and 66 times greater than the New Mexico Wildlife Habitat WQC. See Pajarito Plateau Study (data set with PCBs and map of sampling stations).
21. Pajarito Canyon is impaired for Gross Alpha, Aluminum, PCBs, and Copper. Post-development erosion and watershed runoff following forest fire are listed as sources of impairment. 303b/305b 2014 Report, Appendix A at 240-43.
22. LANL has coverage under an individual storm water permit NM0030759 (LANL IP), issued by the Environmental Protection Agency. This permit covers 405 contaminated sites, which are called either Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs). These sites are monitored at 250 Site Monitoring Areas (SMAs). NM0030759 only regulates these sites. NM0030759 does not regulate general urbanized runoff at LANL or from the Los Alamos Townsite. See NPDES permit # NM0030759 (LANL IP).
23. The target action levels (TALs) developed in the LANL IP are based on and equivalent to New Mexico State water quality criteria. LANL IP at 3 (Part I).
24. In 2012, copper concentrations in filtered storm water were detected above the New Mexico chronic aquatic life water quality criteria (WQC) for copper in Sandia Canyon (4 of 5 samples). In 2012, copper concentrations in filtered storm water were detected above the NMWQCC acute aquatic life WQC for copper in Acid Canyon, DP Canyon, and at the upper Los Alamos sediment detention basins (5 of 39 samples). All of these locations receive a large percentage of runoff from developed areas. 2012 Environmental Report at 6-25.
25. In 2012 sampling of storm water occurred in watersheds along the western boundary of LANL and in urban, developed landscapes in the Los Alamos townsite and on LANL property. The results were included in a report evaluating background and

baseline concentrations of particular metals, weak acid, dissociable cyanide, gross-alpha radioactivity, and radium isotopes. Metals Report at 1.

26. LANL acknowledges that elevated zinc concentrations in storm water are associated with developed areas. 2012 Environmental Report at 6-26.
27. Only 1 of the 34 precipitation and snowpack samples (that is, background samples) collected by LANL for their PCB report were above the New Mexico human health WQC of 0.64 ng/L, and none were above the wildlife habitat WQC of 14 ng/L. PCB Report at 18.
28. Otowi Bridge on the Rio Grande is located above the runoff from the majority of urban influenced canyon systems from Los Alamos County and LANL (Los Alamos Canyon, Pueblo Canyon, Sandia Canyon, Mortandad Canyon, Bayo Canyon and Mortandad Canyon). See maps found at 2012 Environmental Report at 6-3 and PCB Report at 10.
29. The Buckman Well Field on the Rio Grande is located below the runoff from the majority of Los Alamos County and LANL urban influenced canyon systems. See maps found at 2012 Environmental Report at 6-3 and PCB Report at 10.
30. When collecting data for the PCB report, storm water samplers were placed in ephemeral channels around the edge of urban development in Los Alamos County and LANL. No urban samplers were located below any know areas of concentrated contamination (point sources). PCB Report at 59.
31. No known natural sources of PCBs exist. Because of their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were historically used in hundreds of industrial and commercial applications. These applications included electrical, heat-transfer, and hydraulic equipment; plasticizers in paints, plastics, calking, and rubber products; pigments, dyes, and carbonless copy paper; and many other uses. More than 1.5 billion pounds of PCBs were manufactured in the U.S. until domestic manufacture of commercial mixtures, known as Aroclors, ceased in 1977. Approximately 450 million pounds of PCBs have been released to the environment (ATSDR 2000, 213440). *Id.*
32. 41 Los Alamos urban influenced storm water samples were collected and analyzed for PCBs. *Id.* at 62.
33. 40 of the 41 (98%) Los Alamos urban storm water samples were above the New Mexico human health WQC for PCBs. *Id.*
34. 19 of the 41 (46%) Los Alamos urban storm water samples were above the New Mexico wildlife habitat WQC for PCBs. *Id.*
35. In the LANL PCB Report upper tolerance limits (UTLs) were calculated in ProUCL for the best fit distribution to calculate the upper limit concentrations for PCBs under

baseline conditions. (ProUCL is EPA-developed statistical software; [http://www.epa.gov/osp/hstl/tsc/ProUCL\\_v5.0\\_fact.pdf](http://www.epa.gov/osp/hstl/tsc/ProUCL_v5.0_fact.pdf).) The upper tolerance limit (UTL) for PCBs at Los Alamos urban influenced storm water sites (98 ng/L) was substantially higher than the PCB UTL at Los Alamos area non-urban influenced storm water sites (13 ng/L). PCB Report at 49, 64.

36. Suspended PCBs carried by urban runoff from the Los Alamos townsite were 10 to 200 times more enriched with PCBs than at non-urban influenced Pajarito Plateau sites. *Id.* at 62.
37. The LANL PCB Report shows that urban development in Los Alamos County is contributing large amounts of PCBs to receiving waters. The PCB Report calculated the baseline value for total PCBs in storm water runoff from the Los Alamos Townsite to be 98 ng/L, which is substantially greater than the baseline value of 11.7 ng/L that was measured for reference non-urban influenced runoff in Los Alamos County. *Id.* at 49, 64.
38. The higher concentrations associated with the Los Alamos urban runoff as opposed to the Pajarito Plateau reference sites “likely results from the contribution of additional diffuse local [Los Alamos] sources in the urban environment.” This is consistent with information from the Agency for Toxic Substances and Disease Registry as well as numerous studies that report PCB concentrations in storm water in urban areas are higher than in rural locations. Los Alamos National Laboratory, *Alternative Compliance Request for S-SMA-2* 23 (April 2013) (Alternative Compliance Request 2).
39. Studies have shown that motor oil accumulation on parking lots that then is discharged during storm events is a large contributor of zinc in storm water. *Id.* at 15.
40. Tire material consists of 1% zinc by weight, which is released with tire wear as particulate dust or as deposits onto pavement. This release of zinc from tire wear has been found to be a source in storm water runoff (Golding 2006). *Id.*
41. Vehicle brake emissions are one of the most important sources of copper in the urban environment (Sondhi 2010). Copper and other metal additives have been used in brake pads since the 1960s. Between 1998 and 2002, the use of copper in domestic brake pads increased by 90% to meet new federal safety regulations. The content of copper in brake pads varies from 15%–25% at present and accounted for an estimated 47% of copper in a Maryland urban residential neighborhood. Brake emissions in California were estimated to contribute 80% of the copper found in urban storm water runoff. *Alternative Compliance Request 2* at 15.
42. LANL repeatedly says in their Alternative Compliance Requests that there is no mechanism under the Individual Stormwater Permit to control the water quality

exceedances found in their sampling because the pollutants come from urban sources, not the Lab.<sup>9</sup>

43. In 2009 LANL prepared a report to measure background levels of metals and radioactivity in storm waters of the Pajarito Plateau unaffected by Laboratory point source activities and baseline levels of metals and radioactivity in urban (runoff from buildings, roads, parking lots, and associated infrastructure) storm water in the Los Alamos area. Metals Report at 1.
44. Sample locations in the Metals Report were chosen to represent urban environments on the Pajarito Plateau (Los Alamos Townsite and LANL). *Id.* at 5.
45. Nineteen samples for the Metals Report were collected from reference areas (not influenced by urban runoff) and analyzed for 26 constituents (metals and radionuclides). These samples were used to determine baseline values for these constituents. *Id.* at 19, 28.
46. Storm water samples from urban areas at LANL and Los Alamos Townsite were collected from 2008-2012 and used to develop the Metals Report. *Id.* at 33.
47. The maximum value for dissolved cadmium in urban runoff samples from LANL and Los Alamos Townsite was 0.894 ug/L. *Id.* at 33. The TAL and NM WQC for dissolved cadmium is 0.6 ug/L. LANL IP at 4 (Part I).
48. LANL sampling found concentrations of dissolved copper in Los Alamos urban storm water discharges at values well above the NM WQC. The maximum value for dissolved copper in urban runoff samples from LANL and Los Alamos Townsite was 31.8ug/L and the mean value was 10.17 ug/L. Metals Report at 34. The TAL and NM WQC for dissolved copper is 4.3 ug/L. LANL IP at 4 (Part I).
49. The Metals Report shows that urban development in Los Alamos County is contributing large amounts of copper to receiving waters. The Metals Report calculated the baseline value for dissolved copper in storm water runoff in Los Alamos County to be 32.3 ug/L, which is substantially greater than the baseline value of 3.43 ug/L that was measured for reference non-urban influenced runoff in Los Alamos County. Metals Report at 17, 37.
50. The Metals Report shows that urban development in Los Alamos County is contributing large amounts of zinc to receiving waters. The Metals Report calculated the baseline value for dissolved zinc in storm water runoff in Los Alamos County to be 1,120 ug/L, which is substantially greater than the baseline value of 109 ug/L that was measured for reference non-urban influenced runoff in Los Alamos County. *Id.*

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<sup>9</sup> Alternative Compliance Request 2 at 31-2; Los Alamos National Laboratory, *Alternative Compliance Request for S-SMA-.25* 28 (April 2013) (Alternative Compliance Request .25).

51. The Metals Report shows that urban development in Los Alamos County is contributing large amounts of nickel to receiving waters. The Metals Report calculated the baseline value for dissolved nickel in storm water runoff in Los Alamos County to be 7.57 ug/L, which is substantially greater than the baseline value of 3.53 ug/L that was measured for reference non-urban influenced runoff in Los Alamos County. *Id.*
52. LANL sampling found concentrations of dissolved zinc in Los Alamos urban storm water discharges at values well above the NM WQC. The maximum value for dissolved zinc in urban runoff samples from LANL and Los Alamos Townsite was 882 ug/L and the mean value was 181 ug/L. *Id.* at 34. The TAL and NM WQC for dissolved copper is 42 ug/L. LANL IP 4 (Part I).
53. LANL, in their 2013 Alternative Compliance request to EPA, reports that there is copper storm water pollution above NM WQC from urban development in Sandia Canyon. Alternative Compliance Request .25 at 15.
54. LANL, in their 2013 Alternative Compliance request to EPA, reports that data strongly indicate that zinc pollution in storm water in Sandia Canyon is associated with urban runoff. *Id.* at 16.
55. LANL reports in their 2013 Alternative Compliance request to EPA that the primary source of PCB exceedances of permit TALs (and therefore NM WQC) at site monitoring area S-SMA-.25 is from urban runoff. *Id.* at 22.
56. In their 2013 Alternative Compliance Request to EPA, LANL claims that installing controls at the storm water point sources in S-SMA-.25, a drainage area in the Sandia Canyon Watershed, would not lead to attainment of TALs (the same as NM WQC) because the primary source of exceedances are from storm water runoff from urban and natural background sources. *Id.* at 26, 28. LANL goes on to identify urban storm water runoff as the main source of TAL and NM WQC exceedances for zinc, copper and PCBs. *Id.* at 28.
57. LANL identifies urban runoff from sources such as brake pad wear on parking lots, galvanized fencing, culverts and other building materials as the sources of zinc and copper exceedances of TALs (same as NM WQC). *Id.* at 31.
58. Site-specific storm water run-on samples collected by LANL in Sandia Canyon demonstrate urban storm water runoff contributes to TAL (same as NM WQC) exceedances of PCBs. *Id.*
59. In another drainage area in Sandia Canyon (S-SMA-2.0), LANL identifies anthropogenic urban sources as one of the sources of TAL (and NM WQC) exceedances for PCBs. Alternative Compliance Request 2 at 14.
60. LANL identifies runoff from urban development as the likely source of TAL (and NM WQC) exceedances for copper. At one specific site in Sandia Canyon, which is

the focus of one of their alternative compliance request, copper exceedances from urban runoff ranged from 4.78 ug/L to 21.3 ug/L. The TAL (same as NM WQC) for copper is 4.3 ug/L. *Id.* at 16.

61. LANL identifies runoff from urban development as the likely source of TAL (and NM WQC) exceedances for zinc. At one specific site in Sandia Canyon (S-SMA-2.0), which is the focus of one of their alternative compliance requests, zinc exceedances from urban runoff ranged from 30.9 ug/L to 61.2 ug/L. The TAL (same as NM WQC) for zinc is 42 ug/L. *Id.* at 21.
62. LANL states in their Alternative Compliance Request 2.0 that controls in place under the LANL IP and controls proposed to be installed under the LANL IP would not affect the urban source of PCBs in storm water found at S-SMA-2.0, a drainage area in Sandia Canyon. *Id.* at 27.
63. In 2009 the New Mexico Environment Department (NMED) issued a Notice of Violation (NOV) and proposed penalty of \$13,200 to Los Alamos County for violating state surface water quality standards by discharging contaminated storm water.<sup>10</sup>
64. NMED collected storm water samples on 8/3/07 that showed a geometric mean of 0.16316 ug/ of PCBs. They collected another set of samples on 9/5/07 that revealed a geometric mean of 0.00360 ug/L of PCBs. These samples were approximately 255 times and six times the state's PCB human health WQC. The 8/3/07 sample was 12 times the PCB wildlife habitat WQC. Press Release LA County Violations.
65. NMED sampling data in 2007 and 2006 show levels of PCBs in storm water draining off of urban areas in Los Alamos Townsite to be more than 34,000 times greater than the NM Human Health WQC. The concentration of PCBs at Los Alamos County Yard (site 1; 28CtyYdSite1) on 8/2/06 was 22.2 ug/L, which is over 34,000 times greater than the Human Health WQC. A sample taken on 7/26/07 from Timber Ridge (Timber Ridge drainage; 28TimBRg000.2) showed a PCB concentration of 0.133 ug/L, which is 207 times greater than the Human Health WQC. Timber Ridge is a development of apartment buildings in Los Alamos Townsite that drains into Los Alamos Canyon.<sup>11</sup>
66. The City of Santa Fe diverts water from the Rio Grande at its surface water diversion, the Buckman Direct Diversion Project. This surface water is critical to Santa Fe's effort to meet its current and future water needs. City of Santa Fe, *How the BDD Works*, <http://bddproject.org/about-the-bdd/how-the-bdd-works/>. Santa Fe shuts down its diversion whenever the City's monitors in Los Alamos and Pueblo Canyons

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<sup>10</sup> New Mexico Environment Department, *Press Release: Environment Department Issues Notice of Violation and Penalty to Los Alamos County for Allowing Discharge of PCBs into Canyon from County's Annex* (December 15, 2009) (Press Release LA County Violations).

<sup>11</sup> This NMED sampling data was obtained via an Inspection of Public Records Act request. The data is included in the Appendix.



detect storm water flows. City of Santa Fe, *Buckman Direct Diversion Project Water Quality FAQs*, <http://bddproject.org/water-quality/water-quality-faqs/>.

67. The City of Albuquerque also diverts surface water from the Rio Grande and uses it for drinking water. Albuquerque Bernalillo County Water Utility Authority, *San Juan Chama Project*, [http://www.abcwua.org/San\\_Juan\\_Chama\\_Project.aspx](http://www.abcwua.org/San_Juan_Chama_Project.aspx). The City relies upon this diversion project, referred to as the San Juan-Chama Drinking Water Project, for the majority of the City's drinking water and projects a substantial need for this surface water far into the future.<sup>12</sup>
68. The designated uses to be supported by New Mexico Water Quality Standards for the Rio Grande from the Cochiti Pueblo boundary to north of where runoff from Los Alamos' canyons enters the river include "primary contact" (that is, ingestion) and "public water supply." 20.6.4.114.A NMAC.
69. Below where the Los Alamos canyons feed into it, the Rio Grande flows into Cochiti Lake, "[o]ne of the Albuquerque metro-area's most popular swimming spots," with "more than 600 people on the beach every day of a holiday weekend," according to the Army Corps of Engineers. <http://krqe.com/2014/05/22/cochiti-lake-swim-beach-closed-for-memorial-day/>
70. The Rio Grande is adjacent to Bandelier National Monument and makes up more than four miles of its eastern boundary.  
[https://www.lib.utexas.edu/maps/national\\_parks/bandelier\\_park97.pdf](https://www.lib.utexas.edu/maps/national_parks/bandelier_park97.pdf)
71. The Rio Grande supports a population of re-introduced river otters. Beginning in 2008, 33 river otters have been released to the Rio Grande; since then otters have been spotted in the Rio Grande and its tributaries below where the Los Alamos canyons feed into the Rio Grande.<sup>13</sup>

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<sup>12</sup> Albuquerque Bernalillo County Water Utility Authority, *Water Resources Management Strategy Implementation 2024 Water Conservation Plan Goal and Program Update 2* (July 2013), [http://www.abcwua.org/uploads/files/2024\\_Water\\_Conservation\\_Plan\\_Update.pdf](http://www.abcwua.org/uploads/files/2024_Water_Conservation_Plan_Update.pdf) (Figure 1).

<sup>13</sup> James N. Stuart, *River Otter Reintroduction Update* (Feb, 23, 2012) (presentation by NMG&F to N.M. Game Commission).





*Friends of the Wild Rivers*

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Via USPS and email (Honker.William@epa.gov)

June 30, 2014

William K. Honker, Division Director  
Water Quality Protection Division  
U.S. EPA, Region VI  
Fountain Place, 12th Floor, Suite 1200  
1445 Ross Avenue  
Dallas, TX 75202-2733

Dear Mr. Honker,

Under separate cover, Amigos Bravos is petitioning the Regional Administrator for a determination that storm water discharges in Los Alamos County are contributing to violations of water quality standards and, therefore, require NPDES permits pursuant to Section 402(p) of the Clean Water Act and/or designation as a municipal separate storm sewer system. Our petition is supported by extensive data and analysis from the New Mexico Environment Department and the Los Alamos National Laboratory. We firmly believe this petition has merit and should be granted.

If the petition is granted, your division will have the task of implementing the decision. In this letter I would like to share with you our vision of how MS4 coverage for Los Alamos could be accomplished. Urban storm water pollution from Los Alamos should be covered by an individual permit.

Both the nature of the pollution and the current monitoring infrastructure that is unique to this area support the case for coverage under an individual permit. The urban storm water runoff from developed areas at LANL and the Los Alamos Townsite are additionally harmful because of LANL's history of releases. Many of the canyons on the Pajarito Plateau have old dump sites called solid waste management units (SWMUS), which continue to release pollution. Annual reports for LANL's individual industrial storm water permit (IP) detail the scope of continuing storm water exceedances from these SWMUS. Specifically, of the 246 sites for which samples were collected, 233 of them had releases that exceeded water quality standards.<sup>1</sup> Some of these

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<sup>1</sup> Los Alamos National Laboratory, *Storm Water Individual Permit Annual Report, Reporting Period: January 1–December 31, 2013, NPDES Permit No 0030759 154* (March

exceedances continue to be over 32,000 times greater than water quality standards.<sup>2</sup> The urban storm water that is discharged into these canyons exacerbates and mobilizes this historic toxic pollution. The unique contamination issues associated with Los Alamos merit the individual treatment and monitoring opportunities available under an individual permit.

Another reason why an individual permit is appropriate in this case is LANL, as demonstrated by its detailed background study reports on PCBs and Metals, as well as by its extensive monitoring under the IP, has the needed monitoring infrastructure already in place as well as an extensive baseline to compare monitoring results collected under an individual MS4 permit.

An individual permit could provide for needed monitoring and specific treatment options that are not available under the general small MS4 permit. Appropriate treatment options for Los Alamos could be similar to those proposed for the individual MS4 permit for Charles County, Maryland under which treatment of twenty percent of the County's impervious surface would be required by the end of the 5-year permit term.<sup>3</sup>

We look forward to having a constructive dialogue with you and your staff on this topic.

Sincerely,

Rachel Conn  
Projects Director  
Amigos Bravos

Cc: Claudia Hosch  
Brent Larsen

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2014) (table 8.2), <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-254067>.

<sup>2</sup> Los Alamos National Laboratory, *Renewal Application for NPDES Permit Number NM0030759, Individual Permit for Storm Water Discharges from Solid Waste Management Units and Areas of Concern, Volume 1 of 2* 133 (March 2014) (Table 10), <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-254864>.

<sup>3</sup> *Maryland Department of the Environment Draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Permit 8* (June 18, 2014) (Draft permit for Charles County, Maryland. Permit No MD0068365, <http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/Documents/Charles%20Permit%20tentative%20determination.pdf>).



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*Date:* November 20, 2014  
*Symbol:* ENV-DO-14-0354  
*LA-UR:* 14-28913, 14-28375  
*Locates Action No.:* N/A

Mr. Brent Larsen  
Chief, NPDES Permits and Technical Assistance Section (6WQ-PP)  
U. S. Environmental Protection Agency (EPA), Region 6  
1445 Ross Avenue  
Dallas, Texas, 75202-2733

Dear Mr. Larsen:

**Subject: Supplemental Information Regarding the Petition by Amigos Bravos for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit**

Thank you for the opportunity to provide information regarding Los Alamos National Laboratory (LANL or the Laboratory) and the Amigos Bravos Petition for a Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit (the "Petition"). The Department of Energy and Los Alamos National Security, LLC ("DOE/LANS") appreciate and share Amigos Bravos' commitment to water quality in New Mexico. DOE/LANS want to ensure EPA has sufficient and accurate information upon which to base its decision on the Petition.

DOE/LANS have prepared the attached comments on the Statement of Facts submitted by Amigos Bravos in support of its Petition (Enclosure 1). DOE/LANS is also providing a description of its existing storm water programs, the areas of the Laboratory that might be considered urban in nature (Enclosure 2), and of their view regarding the factors used to determine whether a small MS4 permit is appropriate.

## **I. Storm Water Programs**

DOE/LANS implement multiple storm water programs focused primarily on applicable NPDES permits. DOE/LANS operate under the Multi-Sector General Permit ("MSGP"), the Construction General Permit ("CGP"), and an Individual Permit (IP) which regulates storm water discharges from 405 solid waste

management units ("SWMUs") or areas of concern ("AOCs"). LANS storm water personnel maintain required documentation and perform routine inspections at all regulated sites and facilities pursuant to these permits, and maintain an extensive system of sampling stations and storm water control structures. In addition, LANS staff participate in and conduct on-site/off-site seminars, informational meetings, facility tours, and training sessions regarding discharges of storm water and regulatory requirements.

The MSGP at LANL regulates storm water discharges from metal fabrication, power generation, asphalt production (this facility is subject to effluent limits), recycling operations, transportation facilities, a nonferrous foundry and hazardous waste management units. DOE/LANS manage approximately 30 facilities that are regulated under the MSGP. These facilities are routinely inspected and their storm water discharges are monitored for benchmark parameters and water quality standards. In accordance with the 2008 MSGP and through successful implementation of MSGP requirements during the last five years, multiple benchmark parameter and impaired water constituents have been eliminated from further monitoring because analytical data indicate that concentrations of benchmark parameters are below target levels identified in the MSGP.

The CGP program applies to clearing, grading, excavating, and stockpiling performed in connection with construction activity that disturbs one or more acres or less than one acre of land that is part of a common plan of development that will ultimately disturb one or more acres of land. Since February 2012 when the current CGP was issued, DOE/LANS have submitted 25 NOIs to EPA, prepared over 65 storm water pollution prevention plans ("SWPPPs"), and have completed over 1900 site inspections. Each regulated site has a SWPPP and best management practices are employed.

The IP directs DOE/LANS to monitor storm water discharges from SWMUs and AOCs at specified sampling points. The sites regulated under the IP are a subset of the SWMUs and AOCs that are being addressed under the Resource Conservation and Recovery Act 2005 Compliance Order on Consent ("Consent Order") issued by the New Mexico Environment Department. The majority of the sites covered by the IP are remotely located and are not near current industrial activities. Finally, the IP requires, among other things, installation of control measures, monitoring, and corrective action for exceedences of target action levels. Under the IP, numerous storm water controls have been engineered and constructed.

DOE/LANS storm water programs demonstrate commitment to protecting surface waters at the Laboratory. Significant work has been completed and additional work is underway to reduce discharges of storm water at the Laboratory. For example, the completion of the Sandia Wetland Stabilization Project will reduce the potential for migration of contaminated sediments and provide the necessary controls for attainment of the dissolved copper standard in the Upper Sandia Assessment Unit. This assessment unit receives water from the most densely populated area at the Laboratory (Technical Area 3, discussed below). Detention ponds, low-head weirs, stabilization of disturbed areas, and numerous other storm water controls are installed and maintained yearly.

## II. Urban Areas or Urban Clusters

The Laboratory footprint is approximately 36 square miles of mostly undeveloped land. The two areas that could potentially be characterized as urban clusters or developed in nature and that are also served by municipal storm sewer infrastructure are the Technical Area ("TA") 3 area<sup>1</sup> and the western one-third of the Pajarito Corridor. These areas are shown in Enclosure 2.

The TA-3 area is the location of, among other things, administrative buildings, numerous laboratory facilities, craft shops, several parking lots, a cafeteria, a New Mexico Park & Ride transfer station and two multi-story parking structures. Approximately 2900 employees work in facilities located within TA-3.

The western one-third of the Pajarito Corridor includes TAs 48, 55, 50, 63, 66, 35 and 52 (these TAs are listed roughly as one would encounter them if traveling eastbound on Pajarito Road with the exception of TAs 35 and 52, which are accessed via TA-55). These TAs include within their boundaries the plutonium facility, radiological and chemical laboratories, administrative and office buildings, craft shops, the Radioactive Liquid Waste Treatment Facility, and multiple parking lots. Approximately 2300 employees work in these areas. A map outlining the geographic boundaries of TA-3 and the western one-third of the Pajarito Corridor is attached.

The remainder of the Laboratory consists of dispersed facilities, open space in which firing sites are located and undeveloped, unoccupied land. Many of these facilities and sites are regulated under the MSGP, the IP or the 2005 Consent Order. The majority of construction projects at the Laboratory are regulated under the CGP. Additionally, the Energy Independence and Security Act requires federal development or redevelopment projects with a footprint that exceeds 5,000 square feet to maintain or restore to the maximum extent technically feasible the predevelopment hydrology of the property. MS4 regulation of undeveloped areas or sites outside of the TA-3 area and the western one-third of the Pajarito corridor, and areas or sites already regulated by the IP, Consent Order, or both, is not necessary or appropriate.

## III. Factors Addressed in the Petition

The Petition lists two sets of factors used to determine whether a small MS4 permit should be required. The first set is derived from EPA response letters denying similar petitions in EPA Regions I, III and IX. The second is from a 2003 fact sheet published by Region VI when it proposed its small MS4 general permit. In addition to these factors, EPA's Office of Water also lists five factors in a fact sheet published in 2012 (EPA 833-F-00-003). In the main, the factors are similar and focus on current and forecasted populations, discharges to sensitive waters, discharges of pollutants and the adequacy of existing programs (discussed above).

With respect to populations, the number of residents of Los Alamos County is stable or decreasing. Employment levels at the Laboratory have similarly remained stable or decreased. These numbers are expected to remain the same if not decrease further.

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<sup>1</sup> For ease of description, the adjacent and developed area of TA-60 is grouped with TA-3.

With respect to sensitive waters and discharges, five canyons are identified by Amigos Bravos as impaired from, at least in part, discharges from the Laboratory or Los Alamos County: Los Alamos, Sandia, Mortandad, Pajarito and Pueblo. Amigos Bravos listed the probable causes and sources of impairment based on the 2012-2014 303d/305b Integrated Report ("IR"); however, the 2014-2016 IR makes significant changes to those causes and sources. Copper, zinc and mercury were removed as probable constituents in several canyons and the probable source lists were removed and replaced with "Source Unknown". Probable sources are to be developed by the New Mexico Environment Department in the TMDL planning process. Details regarding each canyon's probable cause and source of impairment are provided in the attached comments on Amigos Bravos' Statement of Facts. Generally, the most recent IR listings tend to show a reduction in the constituents causing impairments and uncertainty regarding sources.

Finally, DOE/LANS are unaware of data reflecting Laboratory impacts on any drinking water system. The Los Alamos County 2013 Water Quality Report, summarizes the most recent monitoring results required by EPA's Safe Drinking Water Act program. The water in Los Alamos County meets all federal and state drinking water quality standards. Additionally, the City of Santa Fe in cooperation with LANS/DOE and NMED monitor Buckman Wells 1, 6 and 8 for LANL-derived contaminants on a quarterly basis. Samples are analyzed for radionuclides, general inorganic chemicals, metals, high explosives and organics. Data collected from 2001-2013 indicate no LANL-derived constituents are present in these wells.

#### IV. Conclusion

DOE/LANS appreciate the opportunity to provide this information and looks forward to participating fully in the decision making process on the Amigos Bravos Petition.

Sincerely,



Alison M. Dorries  
Division Leader  
Environmental Protection Division  
Los Alamos National Security LLC

Sincerely,



Gene E. Turner  
Environmental Permitting Manager  
Environmental Projects Office  
Los Alamos Field Office  
U.S. Department of Energy

AMD:GET:TWL/kt

Enclosures: (1) Response to the Statement of Facts  
(2) LANL NPDES MS4 Boundary Proposal

Cy: Bryan Aragon, Los Alamos County, (E-File)  
Gene E. Turner, NA-LA, (E-File)  
Kirsten Laskey, NA-LA, (E-File)  
Lisa Cummings, NA-LA, (E-File)  
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# ENCLOSURE 1

Response to the Statement of Facts

ENV-DO-14-0354

LA-UR-14-28913

Date: NOV 20 2014